

# EXHIBIT J

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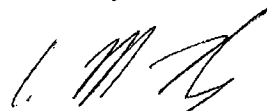
David T. McDonald  
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Re: *NeuroGrafix, et al. v. Siemens Medical Solutions USA, Inc., et al.*, Case  
No. 10-CV-1990 (C.D. Cal.)

Dear Counsel:

Defendants hereby provide their preliminary claim constructions and extrinsic and intrinsic evidence, pursuant to the parties' agreements and the Court's order. Where a passage cited as evidentiary support refers to or discusses a figure, or refers to or discusses an article or other reference, the citation should be understood to include the figure or other reference. Defendants reserve their right to rely on additional evidentiary support to rebut constructions proposed or arguments made by Plaintiffs. Defendants reserve their right to modify or amend these constructions and the list of terms to be construed. Defendants also reserve their right to rely on testimony obtained as part of claim construction discovery, and also any expert opinions disclosed consistent with the parties' agreement.

Sincerely,



Sean M. McEldowney

	<b>Claim Term/Phrase Siemens Contends Requires Construction</b>	<b>Claims</b>	<b>Siemens' Proposed Construction</b>
1.	<p>“controlling the performance of steps (a), (b), and (c) to enhance, in the output produced, the selectivity of said nerve; and</p> <p>[processing the output] / [subtracting said first output from said second output] to generate a data set describing the shape and position of said nerve, said data set distinguishing said nerve from non-neural tissue, in the in vivo region to provide a conspicuity of the nerve that is at least 1.1 times that of [the] / [any adjacent] non-neural tissue”<sup>1</sup></p>	1, 3, 7, 11, 12, 18	<p>Phrase not amenable to construction.</p> <p>Evidentiary support: ‘360 Patent Figs. 7, 9-11; 3:60-64; 6:38-64; 9:55-10:16; 11:50-29:12; 29:24-30:5; NEURO205-213; 218-229; 238; 250; 268-273; 278-287; 296; 310-315; 321-327; 336; 347-352; 358-364; 371; 382-387; 390-395; 402; 411-414; 418-425; 432; 440-442; 522-527; 530-532; 534-540; 568-575; 586-587; 595-601; 603; 610; 627-629; 631; 6569; SMSSAG311; 404; 47543-4; 47577; 48283-5; 51118-9; 51124-5; 51135-6; 51145-7; 51151-2; 51164-6; 51173; 51179; 51305-504; 51711-3; 51717-8; 51723-5; 51728-30; 51732; 51736-44; 51746; 51748-54; 51762-3; 51774-5; 51793-5; 51803-7; 51808-9; 51813-4; 51823-4; 51828-30; 51835-9; 51840-4; 51850-3; 51856-7; 51858-9; 51864-5; 51870-4; 51881-2; 51886-7; 51892-903; 51904-6; 51914-22; 51923-6; 51927-39; 51951-2; 51955; 51958; 52025-33; 52042; 52045-6; 52280; 52459-60; 52819-22.</p>
2.	<p>“analyzing . . . for information representative of fascicles”</p>	1, 12, 24	<p>Automatically, with a computer algorithm, or visually identifying and examining distinct bundles of nerve fiber.</p> <p>Evidentiary support: ‘360 Patent 8:17-23; Figs. 20, 21; 27:4-28:26; 8:18-22; 27:5-15; 28: 9-17; NEURO530; 6569; SMSSAG51189-90; 51220; 51256; 51971; 51974; 52064; 562067.</p>

<sup>1</sup> Claim 19 includes a phrase that Siemens contends should be construed consistently and in the same manner, specifically the phrase “intensity at least 5 times that of the non-neural tissue.”

Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
3. "vector processing"	11, 22, 36, 55	Calculating the ratio of $D_{pl}/D_{pr}$ or calculating data according to equation 3, 4, 5, and/or 6.  Evidentiary support: '360 Patent Figs. 16, 17; 8:6-9; 17:12-16; 19:28-21:34; NEURO223; SMSSAG51757; 51770; 52104.
4. "regardless of the alignment"	36, 55	Independent of degree of alignment.  Evidentiary support: '360 Patent 20:24-34; 16:48-67.
5. 112 ¶ 6 term: "analyzing the data representative of anisotropic diffusion to determine how to relate said data set and said additional data sets; and ...combining said data set and said additional data sets to generate said further data set that describes the three dimensional shape and position of the segment of said [neural tissue]/[selected structure], thereby [enabling]/[allowing] [the]/[a] three dimensional shape and position of [curved neural tissue]/[a curved structure exhibiting anisotropic diffusion]/[curved structure exhibiting anisotropic diffusion] to be described"	39, 46, 49, 58, 61	Function: To determine how to relate said data set and said additional data sets and to generate said further data set that describes the three dimensional shape and position of the segment of said [neural tissue]/[selected structure], thereby [enabling]/[allowing] [the]/[a] three dimensional shape and position of [curved neural tissue]/[a curved structure exhibiting anisotropic diffusion]/[curved structure exhibiting anisotropic diffusion] to be described.  Corresponding structure: No corresponding structure disclosed, and phrase is not amenable to construction.  Evidentiary support: '360 Patent 21:48-22:27; 9:64-10:16; 11:9-18; 19:39-50; 33:41-43; 36:57-59; 11:46-49; NEURO206; 227; 532-34; NEURO210-11; 227; 500; 506; 516-22; 527-28; 532-34.
6. "effective vector"	41, 43, 44, 42, 47, 50, 59, 62	Vector length and angle as calculated by equations 3 and 4, 5, or 6.  Evidentiary support: '360 Patent Figs. 16, 17; 8:6-9; 17:12-16; 19:28-21:34; NEURO223; SMSSAG51757; 51770; 52104.

	Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
7.	"based upon the length of said effective vector"	42	Based on vector length as calculated by equation 3.  Evidentiary support: '360 Patent Figs. 16, 17; 8:6-9; 17:12-16; 19:28-21:34; NEURO223; SMSSAG51757; 51770; 52104.
8.	"based upon an angle describing in part the direction of said effective vector"	44	Based on vector angle as calculated by equation 4, 5, or 6.  Evidentiary support: '360 Patent Figs. 16, 17; 8:6-9; 17:12-16; 19:28-21:34; NEURO223; SMSSAG51757; 51770; 52104.
9.	112 ¶ 6 term:  "excitation and output arrangement means for exposing a region to a suppression sequence of electromagnetic fields that suppresses the electromagnetic responsiveness of structures in the region that do not exhibit diffusion anisotropy, so as to increase the apparent diffusion anisotropy of structures in the region that exhibit diffusion anisotropy."	54	Function: Exposing a region to a suppression sequence of electromagnetic fields that suppresses the electromagnetic responsiveness of structures in the region that do not exhibit diffusion anisotropy, so as to increase the apparent diffusion anisotropy of structures in the region that exhibit diffusion anisotropy.  Corresponding structure: No corresponding structure disclosed, and phrase is not amenable to construction.  Evidentiary support: NEURO210-11; 227; 500; 506; 516-22; 527-28; 532-34.
10.	112 ¶ 6 term: "processor means"  Variation 1: "processor means coupled to said excitation and output arrangement"	54, 55, 64	Function for variation 1: Processing said outputs to generate data representative of the diffusion anisotropy of the selected structure.  Function for variation 2: i) vector processing said outputs to

<sup>2</sup> Claim 51 includes a phrase that Siemens contends should be construed in the same manner, specifically the phrase "a suppression sequence of electromagnetic fields that suppresses the electromagnetic responsiveness of structures in the region that do not exhibit diffusion anisotropy, so as to increase the apparent diffusion anisotropy of structures in the region that exhibit diffusion anisotropy, said suppression sequence of electromagnetic fields not including diffusion-weighted magnetic gradients."

Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
<p>means for processing said outputs to generate data representative of the diffusion anisotropy of the selected structure”<sup>3</sup></p> <p>Variation 2: “processor means . . . for: i) vector processing said outputs to generate data representative of anisotropic diffusion exhibited by the selected structure in the region, regardless of the alignment of said diffusion-weighted gradients with respect to the orientation of said selected structure; and ii) processing said data representative of anisotropic diffusion to generate a data set describing the shape and position of said selected structure in the region, said data set distinguishing said selected structure from other structures in the region that do not exhibit diffusion anisotropy”</p> <p>Variation 3: “processor means is further for processing said data representative of the diffusion anisotropy of the selected structure</p>		<p>generate data representative of anisotropic diffusion exhibited by the selected structure in the region, regardless of the alignment of said diffusion-weighted gradients with respect to the orientation of said selected structure; and ii) processing said data representative of anisotropic diffusion to generate a data set describing the shape and position of said selected structure in the region, said data set distinguishing said selected structure from other structures in the region that do not exhibit diffusion anisotropy.</p> <p>Function for variation 3: Processing said data representative of the diffusion anisotropy of the selected structure to produce a data set that describes the shape and position of the selected structure.</p> <p>Corresponding structure: No corresponding structure disclosed, and phrase is not amenable to construction.</p> <p>Evidentiary support: ‘360 Patent 6:5-9; 8:48-60; 9:42-54; 9:64-10:16; 11:9-18; 11:46-49; 16:62-64; 8:6-9; 17:12-16; 19:28-22:27; 29:13-23; 30:7-14; 33:33-45; NEURO210-11; 227; 500; 506; 516-22; 527-28; 532-34.</p>

<sup>3</sup> Claim 51 includes a phrase that Siemens contends should be construed in the same manner, specifically the phrase “processing said outputs to generate data representative of the diffusion anisotropy of the selected structure”

Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
to produce a data set that describes the shape and position of the selected structure" <sup>4</sup>		
11. "epineurium and perineurium"	18	Connective tissue surrounding peripheral nerves.  Evidentiary support: '360 Patent 27:5-12; SMSSAG51188; 51193; 51209; 51219; 51253; 51263; 52058; 52080.
12. "a member of the group consisting of peripheral nerves, cranial nerves numbers three through twelve, and autonomic nerves"	1, 3, 7, 11, 12, 18, 63, 66	A nerve that is listed in Taber's Cyclopedic Medical Dictionary (17th ed. 1989) on pages 182, 463 (excluding cranial nerves 1 and 2), 1290, or 1291 and/or that is otherwise not part of the central nervous system.  Evidentiary support: '360 Patent Figs. 20, 21, 22; 1:28-41; 6:49-55; 8:16-20; 13:29-32; 17:39-43; 23:13-16; 27:30-44; 30:22-37; 31:61-63; 32:4-45; 35:9-22; NEURO487-88; 523-25; 534; 549; 569-73; 582-83; 598; SMSSAG51186; 51191-208; 51211-16; 51230-51235; 51246-52; 51254-55; 51257-62; 51264-66; 51781-82; 51961.
13. "selectivity"	1, 3, 7, 11, 12, 18	Degree to which one can discriminate or discern.  Evidentiary support: '360 Patent 24:8-16; 27:47-66; 28: 44-66; NEURO530-31; SMSSAG51229; 51243; 51708; 51983-87; 52089; 52092.

<sup>4</sup> Claims 22, 36, 52, and 55 includes a phrase that Siemens contends should be construed in the same manner, specifically the phrases "processing said data representative of anisotropic diffusion to generate [a]/[said] data set describing the shape and position of [the nerve]/[said selected structure]" and "data representative of the diffusion anisotropy of the selected structure is processed to produce a data set that describes the shape and position of the selected structure"

	<b>Claim Term/Phrase Siemens Contends Requires Construction</b>	<b>Claims</b>	<b>Siemens' Proposed Construction</b>
14.	"a combination of echo time and repetition time that exploits a characteristic spin-spin relaxation coefficient of peripheral nerves cranial nerves numbers three through twelve, and autonomic nerves, [wherein] said spin-spin relaxation coefficient [is] / [of these nerves being] substantially longer than that of other surrounding tissue"	3, 25	An echo time of longer than 50 milliseconds and repetition time of longer than 1 second, commonly referred to as a T2-weighted sequence.  Evidentiary support: '360 Patent 13:49-14:31; 23:27-24:6; SMSSAG47612; 47616; 47623-30; 47967-71; 48055-8; 48280-81; 52171-3.
15.	"selected"	36, 37, 49, 50, 51, 52, 54, 55, 61, 62, 64	Chosen in preference to another or others; picked out, especially for some special quality.  Evidentiary support: '360 Patent 6:47-55; 7:8-15; 17:18-48; 19:51-61; 20:16-24; SMSSAG51243; 51532; 51708; 51986-7; 52089; 52092.
16.	"normalized by a magnitude of said zero diffusion gradient output"	43	Multiplied by the image intensity produced without a diffusion-weighted gradient.  Evidentiary support: '360 Patent 20:46-57.



	Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
17.	112 ¶ 6 term: “polarizing field source means . . . for exposing the region to a predetermined arrangement of diffusion-weighted magnetic gradients chosen to: i) emphasize a selected structure in the region exhibiting diffusion anisotropy in a particular direction; and ii) suppress other structures in the region exhibiting diffusion anisotropy in directions different from said particular direction” <sup>5</sup>	54	Function: Exposing the region to a predetermined arrangement of diffusion-weighted magnetic gradients chosen to: i) emphasize a selected structure in the region exhibiting diffusion anisotropy in a particular direction; and ii) suppress other structures in the region exhibiting diffusion anisotropy in directions different from said particular direction.  Corresponding structure: Diffusional gradient coil pairs 68 and 70 in Figure 8.  Evidentiary support: '360 Patent Figs. 7, 8; 11:2-8; 22:28-23:26; NEURO500; 506; 516-22; 527-8; 532-4.

<sup>5</sup> Claims 51 and 55 include phrases that Siemens contends should be construed in the same manner, specifically the phrases “exposing the region to a predetermined arrangement of diffusion-weighted magnetic gradients, said predetermined arrangement of diffusion-weighted magnetic gradients chosen to: i) emphasize a selected structure in the region exhibiting diffusion anisotropy in a particular direction; and ii) suppress other structures in the region exhibiting diffusion anisotropy in directions different from said particular direction” and “polarizing field source means for exposing a region to a magnetic polarizing field including a predetermined arrangement of diffusion-weighted gradients.”

	Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
18.	<p>112 ¶ 6 term:</p> <p>“excitation and output arrangement means positioned near said polarizing field source means for: i) exposing the region to an electromagnetic excitation field; and ii) for each of said diffusion-weighted gradients, sensing a resonant response of the region to the excitation field and the polarizing field including the diffusion-weighted gradient and producing an output indicative of the resonant response”</p>	55	<p>Function: i) exposing the region to an electromagnetic excitation field; and ii) for each of said diffusion-weighted gradients, sensing a resonant response of the region to the excitation field and the polarizing field including the diffusion-weighted gradient and producing an output indicative of the resonant response</p> <p>Corresponding structure: RF excitation coil 62.</p> <p>Evidentiary support: '360 Patent Figs. 7, 8, 10; 10:37-44; 13:54-67; 22:28-23:26; NEURO500; 506; 516-22; 527-8; 532-4.</p>
19.	“echo time”	3, 4, 25	<p>Time in milliseconds between application of the original 90 degree RF excitation pulse and the resultant echo signal.</p> <p>Evidentiary support: '360 Patent Fig. 11; 13:49-67; 15:12-25; 23:27-24:6; SMSSAG47619; 47626-7; 47968; 48056-8; 48280; 52285; 52726-30.</p>
20.	“repetition time”	3, 4, 5, 25	<p>Time between successive pulse sequences.</p> <p>Evidentiary support: '360 Patent Fig. 11; 23:27-24:6; 22:28-23:26; SMSSAG47619; 47626-7; 48056-8; 48280; 52285; 52736-45.</p>
21.	“diffusion-weighted gradient”	7, 11, 20, 22, 36, 43, 51, 54, 55	<p>Pulsed magnetic field gradients.</p> <p>Evidentiary support: '360 Patent Fig. 11; 5:16-30; 17:17-33; SMSSAG48089-90.</p>

	Claim Term/Phrase Siemens Contends Requires Construction	Claims	Siemens' Proposed Construction
22.	"suppress," "suppresses" and/or "suppression," which Siemens contends should be construed in the same manner	6, 12, 13, 23, 28, 51, 54	Reduces the influence of.  Evidentiary support: '360 Patent 12:32-13:48; 25:65-26:6; 29:42-46; NEURO209; 223; SMSSAG51764; 51776; 51947-8; 52036; 52095.
23.	"diffusion anisotropy" and/or "anisotropic diffusion," which Siemens contends should be construed in the same manner	11, 22, 36, 39, 40, 41, 46, 47, 49, 50, 51, 52, 54, 55, 58, 59, 61, 62, 64	Greater water mobility in some directions compared to others.  Evidentiary support: '360 Patent 5:3-12; 5:31-65; NEURO209; SMSSAG48090-1; 51760; 51767; 51773; 51779; 51964.
24.	"distinguish," "distinguishes," and/or "distinguishing," which Siemens contends should be construed in the same manner	1, 3, 7, 11, 12, 18, 19, 36, 55	Allows one to recognize as distinct or different.  Evidentiary support: '360 Patent 3:43-50; 5:44-65; 27:65-28:8; NEURO524; SMSSAG51223; 51239; 51703; 51999-2000; 52049; 52052.

	<b>Claim Term/Phrase Plaintiffs Contend Requires Construction</b>	<b>Claims</b>	<b>Siemens' Proposed Construction</b>
1.	"peripheral nerves, cranial nerves numbers three through twelve, and autonomic nerves"	1, 3, 7, 11, 12, 18, 63, 66	This phrase is included as part of a larger phrase proposed by Siemens. Siemens contends the larger phrase should be construed, as provided in the table above.
2.	"selectivity"	1, 3, 7, 11, 12, 18	Siemens' proposed construction for this term is provided in the table above.
3.	"conspicuity of the nerve that is at least 1.1 times that of the neural tissue"	1, 3, 7, 11, 12, 18	This phrase is included as part of a larger phrase proposed by Siemens. Siemens contends that the larger phrase, including this portion, is not amenable to construction.
4.	"vector processing"	11, 22, 36, 55	Siemens' proposed construction for this phrase is provided in the table above.
5.	"diffusion-weighted gradients"	7, 11, 20, 22, 36, 43, 51, 54, 55,	Siemens' proposed construction for this phrase is provided in the table above.
6.	"data set describing the shape and position of said [nerve] / [neural tissue]"	1, 3, 7, 11, 12, 18, 36, 39, 42, 44, 49, 55, 58, 61	This phrase is included as part of larger phrases proposed by Siemens. Siemens contends the larger phrases should be construed, as provided in the table above.
7.	"excitation and output arrangement means"	54, 55	This phrase is included as part of larger phrases proposed by Siemens. Siemens contends the larger phrases should be construed, as provided in the table above.

	<b>Claim Term/Phrase Plaintiffs Contend Requires Construction</b>	<b>Claims</b>	<b>Siemens' Proposed Construction</b>
8.	"polarizing field source means"	54, 55	This phrase is included as part of larger phrases proposed by Siemens. Siemens contends the larger phrases should be construed, as provided in the table above.
9.	"while the nerve is living in the in vivo region of the subject"	1, 3, 7, 11, 12, 18	Siemens contends this phrase does not require construction and should be understood from its ordinary meaning. To the extent it is construed, Siemens contends it should be construed to mean "while the nerve is in a living creature."  Evidentiary support: '360 Patent 6: 26-32; SMSSAG51191-201; 51230-35; 51259-51261; 51756; 51789; 52014-16; 52019-21; 52070-71; 52074.